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MEMORANDUM FOR   Michael Longini
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Subject: Specification for Setting the Official Population for Each Group Quarters in the Special Place/Group Quarters Universe

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I.   Introduction

    A.   Purpose

The purpose of this specification is to set the value of the field on the Special Place/Group Quarters (SP/GQ) Master File known as 'Offpop', a shorthand for 'Official Population'. This variable constitutes the Census Bureau's best determination of how many people lived in each Group Quarters on Census Day. It provides the basis from which adjustments to the number of residents are made to account for persons with an Usual Home Elsewhere (UHE).

    B.   History

       1.   GQ Population Counts During Enumeration

In February and March of 2000, the SP Advance Visit operation recorded the expected Census Day population of every GQ on the SP/GQ Master File. In April and May, each GQ was enumerated by Census enumerators.

When a GQ was enumerated, each GQ resident filled out a questionnaire, and the enumerator wrote the GQ Identification (ID) in a box on the questionnaire. The enumerator recorded the number of persons enumerated on a cover sheet known as a Form D-352. The enumerator put the questionnaires and the Form D-352 in an envelope, and gave the envelope to his/her crew leader who brought them to the Local Census

Office (LCO). The LCO personnel counted the forms upon receipt; the forms were counted again at checkout from the LCO (COpop), when they were shipped to the Jeffersonville, IN Data Capture Center (DCC). Both counts were recorded in the OCS 2000 system.

Upon arrival at the DCC, the forms were counted again. That count and the enumerator's count on the D-352 were recorded. The forms were then scanned for content; the forms bearing a valid GQID were included in the count of forms data-captured at the DCC (DCpop).

Each of the counts discussed in this section was recorded on the SP/GQ Master File.

2.   Post-Enumeration Telephone Operations

Census representatives contacted GQs after the enumeration to obtain Census Day population counts for two categories of GQs: (a) those that had refused to be enumerated during the April/May enumeration period, and (b) those that had a large discrepancy between the expected population and the COpop and DCpop counts recorded after enumeration. The counts obtained by these phone operations were temporarily recorded in the Offpop field on the SP/GQ Master File. We will refer to this count, where applicable, as the Phonepop of a GQ.

C.   Discussion

Of the five counts available for most GQs, the DCpop was of absolute reliability as a minimum population for a GQ. The SP/GQ team concluded that, of the other counts, the COpop was reliable enough to use to determine whether or not all the forms from a SP had successfully been captured. The team also noted that forms attributed to one GQ at LCO checkout, frequently were attributed to another GQ in the same SP at data capture. So the team recognized that if LCO checkout counts were to be compared with data capture counts, it had to be done at the SP level, rather than the GQ level.

Accordingly, at the SP level, and excluding GQs with a Phonepop, the Offpop will be the larger of the COpop and the DCpop. The overall approach to setting a GQ's Offpop was as follows: (1) the minimum Offpop for each GQ is the DCpop; (2) if a GQ received a Phonepop, that was considered binding, unless it violated (1); and (3) the total Offpop for each SP had to equal the maximum of (a) the sum of the COpops, and (b) the sum of the DCpops, of the SP's component GQs.

II.   Setting the Offpop

    A.   Overview

The Decennial Statistical Studies Division (DSSD) provided the Decennial Systems and Contracts Management Office (DSCMO) with instructions on setting the Offpop for the majority of GQs. For the remainder, DSSD provided DSCMO with a list of GQIDs and Offpops of GQs for which DSSD set the Offpop directly, according to rules that had been agreed to by DSCMO and DSSD.

    B.   Eligibility

For a GQ to be assigned an Offpop, it had to have a nonzero COpop, a nonzero DCpop, or a nonzero Phonepop. All other GQs were deleted from the Census list of GQs.

    C.   Special Operations Cases

If, for a GQ, (a) Phonepop > 0, and (b) Phonepop $\geq$ DCpop, then DSCMO was instructed to set Offpop as: Offpop = Phonepop.

    D.   File Division

After Offpop was assigned to the cases in II. C., the remaining GQs were grouped together by SP.

For each of the remaining GQs, CO/DCmax = max(COpop, DCpop) was calculated. Then COpop, DCpop, and CO/DCmax for these GQs were summed for each SP.

The Σ COpop is the sum of the COpops, within a single SP, over those GQs whose Offpop was not set in Section II.C. The Σ DCpop and Σ CO/DCmax are analogous sums of DCpop and CO/DCmax, respectively.

        1.   If, for a given SP, Σ CO/DCmax = max(Σ COpop, Σ DCpop), then Offpop was set as follows:

            a.   For GQs with Phonepop > 0:

The DSSD set Offpop = max(COpop, DCpop) for each such GQ, and provided the GQIDs and the Offpop values to DSCMO. The DSCMO then set the Offpop on the SP/GQ Master File to the value provided by DSSD.

b.   For GQs with Phonepop = 0:

The DSCMO was instructed to set Offpop = max(COpop, DCpop) for each such GQ.

2.   If, for a given SP, Σ CO/DCmax > max(Σ COpop, Σ DCpop), then Offpop was set as follows:

a.   For SPs with Σ DCpop $\geq$ Σ COpop:

The DSSD set Offpop = DCpop for each GQ in the SP.

b.   For SPs with Σ DCpop < Σ COpop:

For each GQ, let

$$\text{Diff} = \text{COpop - DCpop,} \quad \text{if COpop} > \text{DCpop;}$$
$$0, \quad \text{otherwise.}$$

Diff is the maximum population that can be attributed to each GQ, over and above DCpop.

Let   D = Σ Diff   (summed over all GQs in the SP).

D is the maximum population that could be attributed to each SP, over and above DCpop, if the resolution of GQ population counts were being done on a purely GQ-by-GQ basis. However, as discussed in I.C. above, the GQ population is controlled within the SP so that the SP population total across GQs is equal to max(Σ COpop, Σ DCpop).

Since the population for each SP is the larger of the SP's COpop and the SP's DCpop, the population that can be attributed to the SP, over and above DCpop, is

N = Σ COpop $-$ Σ DCpop (summed over all GQs in the SP).

When D is bigger than N, it is necessary to allocate the SP-level excess of COpop over DCpop among those GQs in the SP for which COpop > Dcpop. This was done for each SP by computing:

R = N/D   (the ratio of N to D for each SP)

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and setting

$$Offpop = DCpop + R*Diff$$

for each GQ. (For GQs with DCpop $\geq$ COpop, this amounted to setting Offpop = DCpop.)

The DSSD set these counts for each such GQ, and provided the GQIDs and the Offpop values to DSCMO. DSCMO then set the Offpop on the SP/GQ Master File to the value provided by DSSD.

III.   Post-Offpop

Where the number of forms that were data captured for a GQ was less than the Offpop, DSCMO generated person records to make up the difference. These records appear on the HCUF (Hundred percent Census Unedited File) as Be Counted Forms (BCFs) with no person data.

In addition to the person records for each GQ captured in GQ enumeration, and the BCFs with no person data described in the previous paragraph, person records were added to the HCUF GQ population: GQ residents who completed a BCF and persons on mailback questionnaires received from some GQs.

Persons enumerated at certain kinds of GQs (military, group homes, some types of Service-Based Enumeration (SBE) locations, and miscellaneous GQs with typecodes of 900 and up) were allowed to claim an UHE. That is, they could indicate that their true residence was at a place other than the GQ at which they were counted in the GQ Enumeration operation. The Non-ID'd Questionnaire operation attempted to match persons at those GQs who claimed an UHE with the household (or other GQ) that they listed as their usual residence. If the matching was successful, these persons were taken out of the GQ universe and became part of the housing unit universe. (Residents of military GQs who claimed an UHE were taken out of the GQ universe, regardless of whether they could be matched.)

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